

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/004980

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04R3/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H04R H04B H03G H03F G10L G01S

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 116 961 A (NOKIA MOBILE PHONES LTD) 18 July 2001 (2001-07-18) abstract; figures 1-4 column 1, line 36 - line 57 column 3, line 6 - line 68 column 4, line 40 - line 58 column 5, line 26 - line 55 column 6, line 4 - line 23; claims 1-4,7-9,13-19	1
Y	PATENT ABSTRACTS OF JAPAN vol. 1995, no. 10, 30 November 1995 (1995-11-30) & JP 7 176178 A (ALPINE ELECTRON INC), 14 July 1995 (1995-07-14) abstract; figure 1	2-20
		2-20

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
27 October 2004	08/11/2004

Name and mailing address of the ISA
European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl
Fax (+31-70) 340-3016

Authorized officer

Timms, O

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2003/072461 A1 (MOORER JAMES A) 17 April 2003 (2003-04-17) abstract; claims 1,35,41; figure 9 _____	1-20
A	GB 2 097 121 A (FERRANTI LTD) 27 October 1982 (1982-10-27) abstract; figure 1 page 1, line 5 - line 17 page 3, line 105 - line 116 page 5, line 25 - line 30 _____	1-20
A	EP 1 083 543 A (VOLKSWAGENWERK AG) 14 March 2001 (2001-03-14) abstract; claims 1-4,7-9; figure 1 _____	1,2,16, 20
P,X	DE 101 56 954 A (DAIMLER CHRYSLER AG) 18 June 2003 (2003-06-18) the whole document _____	1-20
P,X	EP 1 343 351 A (ERICSSON TELEFON AB L M) 10 September 2003 (2003-09-10) the whole document _____	1,2, 16-18,20

INTERNATIONAL SEARCH REPORT

Information on patent family members

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PCT/EP2004/004980

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
EP 1116961	A	18-07-2001	US EP JP	6449593 B1 1116961 A2 2001245382 A		10-09-2002 18-07-2001 07-09-2001
JP 7176178	A	14-07-1995	JP	3411648 B2		03-06-2003
US 2003072461	A1	17-04-2003		NONE		
GB 2097121	A	27-10-1982		NONE		
EP 1083543	A	14-03-2001	DE EP	19942868 A1 1083543 A2		15-03-2001 14-03-2001
DE 10156954	A	18-06-2003	DE	10156954 A1		18-06-2003
EP 1343351	A	10-09-2003	EP	1343351 A1		10-09-2003